

CLAIMS:

1. A display apparatus (DAP) comprising:

a liquid crystal display (LCD) for receiving an input display signal (DS) to display an adapted display signal (DSA) being enhanced within a predetermined area (PA) of a display screen (SCR) of the liquid crystal display (LCD) in response to an enhancement control signal (ECS),

a lamp driver circuit (LDC) for changing a property of the light emitted by a backlighting lamp (BLL) illuminating the liquid crystal display (LCD), under control of a light control signal (LCS),

a data controller (DCO) for adapting the display signal (DS) under control of a data control signal (DCS) to obtain a substantially unchanged display on the display screen (SCR) outside the predetermined area (PA),

a light sensor (LS) for measuring the property of the light to obtain a measured property of the light (MPL), and

an enhancement controller (EC) comprising a first input for receiving the enhancement control signal (ECS) and a second input coupled to the light sensor (LS), for adapting the data control signal (DCS) and the light control signal (LCS), both in response to the enhancement control signal (ECS), and for determining the data control signal (DCS) and/or the light control signal (LCS) in correspondence with the measured property of the light (MPL).

2. A display apparatus as claimed in claim 1, characterized in that the enhancement controller (EC) further comprises:

a memory (MEM) for storing the measured property of the light during a period in time that the enhancement control signal (ECS) indicates that no enhancement is present, and

a calculating circuit (CAL) for calculating a value of the data control signal (DCS) based on the stored measured property (SMPL) and a measured property (MPL) of the light after an instant the enhancement control signal (ECS) indicates that the enhancement is present.

3. A display apparatus as claimed in claim 1, characterized in that the property of the light is the brightness, and in that the lamp driver circuit (LDC) comprises:

a pulse width modulator (PWM) for generating a pulse width control signal

5 (PWC) having a duty cycle dependent on a brightness control signal (BCS),

a series arrangement of a current driver (CUD), a switching device (CSW), and the backlighting lamp (BLL), the current driver (CUD) has an input for receiving a current control signal (ES) and an output for supplying a predetermined current (IL) to the backlighting lamp (BLL) when the switching device (CSW) is closed, the switching device

10 (CSW) has a control input for receiving the pulse width control signal (PWC) to determine on and off times of the switching device (CSW), and the enhancement controller (EC) further comprises:

a control signal generator (CSG) for generating the light control signal (LCS) comprising the brightness control signal (BCS) and the current control signal (CCS) based on

15 the enhancement control signal (ECS), and wherein during a transition of the brightness, the brightness control signal (BCS) is adapted to change the duty cycle, and if the transition is not proceeding fast enough, the current control signal (CCS) is adapted to temporary change the current (IL) through the backlighting lamp (BLL).

20 4. A system comprising a display apparatus (DAP), and a computer (COM) for generating a display signal (DS) and an enhancement control signal (ECS) indicating a required enhancement of the display signal (DS) within a predetermined area (PA) on a display screen (SCR) of the display apparatus (DAP), the display apparatus (DAP) comprising:

25 a liquid crystal display (LCD) for receiving an input display signal (DS) to display an adapted display signal (DSA) being enhanced within a predetermined area (PA) of the display screen (SCR) of the liquid crystal display (LCD) in response to an enhancement control signal (ECS),

a lamp driver circuit (LDC) for changing a property of the light emitted by a

30 backlighting lamp (BLL) illuminating the liquid crystal display (LCD), under control of a light control signal (LCS),

a data controller (DCO) for adapting the display signal (DS) under control of a data control signal (DCS) to obtain a substantially unchanged display on the display screen (SCR) outside the predetermined area (PA),

a light sensor (LS) for measuring the property of the light to obtain a measured property of the light, and

an enhancement controller (EC) comprising a first input for receiving the enhancement control signal (ECS) and a second input coupled to the light sensor (LS), for
5 adapting the data control signal (DCS) and the light control signal (LCS), both in response to the enhancement control signal (ECS), and for determining the data control signal (DCS) and/or the light control signal (LCS) in correspondence with the measured property of the light (MPL).

10 5. A method of enhancing a predetermined area (PA) of a display screen (SCR) of a liquid crystal display (LCD) in response to an enhancement control signal (ECS), the method comprising:

changing (LDC) a property of light emitted by a backlighting lamp (BLL) illuminating the liquid crystal display (LCD), under control of a light control signal (LCS),

15 adapting (DCO) a display signal (DS) under control of a data control signal (DCS) to obtain a substantially unchanged display on the display screen (SCR) outside the predetermined area (PA),

measuring (LS) the property of the light, and

20 receiving (EC) the enhancement control signal (ECS) and the measured property of the light (MPL) for adapting (EC) the data control signal (DCS) and the light control signal (LCS), both in response to the enhancement control signal (ECS), and for determining (EC) the data control signal (DCS) and/or the light control signal (LCS) in correspondence with the measured property of the light (MPL).